

1 RR\_UNC - Calculate uncertainties in reaction rates  
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 3 Andrej Trkov, Jozef Stefan Institute, Ljubljana, Slovenia  
 4 Version Jul. 2019  
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6  
 7 Reference x.s. file :  
 ..\IRDFF-II.g725  
 8 Source spectrum file :  
 ..\IRDFF-II\_sp.g  
 9 Reaction rate integ.flag : 1  
 10 Reaction rate norm. flag : 1  
 11  
 12 Spectrum MAT No. : 9014  
 13 Spectrum Integral : 6.151E+02  
 14 Spectrum average energy [eV] : 1.251E+06  
 15 Spectrum peak energy [eV] : 3.098E-02  
 16 Reaction rate RR = spectrum integral  
 17

	No.	Mat.	MT	E(50%) [MeV]	<RR> +/- [mb]	Unc	Unc. x.s. [%]	Unc. Sp. [%]	Unc. Total [%]
18									
19									
20									
21									
22	1	3000	1	0.61187	1.1738E+06	+/- 3.965E+01	0.00	0.00	0.00
23	2	3000	2	0.5451	1.0787E+06	+/- 3.671E+01	0.00	0.00	0.00
24	3	3000	205	0.29715	3.5145E+04	+/- 2.216E+02	0.63	0.02	0.63
25	4	3000	207	0.33272	3.8427E+04	+/- 6.870E+02	1.79	0.02	1.79
26	5	3006	1	0.34034	1.5727E+06	+/- 9.780E+01	0.00	0.01	0.01
27	6	3006	2	0.36994	1.1411E+06	+/- 3.905E+01	0.00	0.00	0.00
28	7	3006	105	0.26226	3.8672E+05	+/- 2.234E+03	0.58	0.02	0.58
29	8	3006	205	0.26226	3.8672E+05	+/- 2.234E+03	0.58	0.02	0.58
30	9	3006	207	0.27819	4.2972E+05	+/- 8.880E+03	2.07	0.02	2.07
31	10	3007	1	0.675	1.1410E+06	+/- 3.840E+01	0.00	0.00	0.00
32	11	3007	2	0.57592	1.0735E+06	+/- 3.679E+01	0.00	0.00	0.00
33	12	3007	205	5.92969	6.2694E+03	+/- 1.543E+02	2.46	0.02	2.46
34	13	3007	207	5.92637	6.2882E+03	+/- 1.543E+02	2.45	0.02	2.45
35	14	5000	1	0.47527	1.8902E+06	+/- 8.500E+01	0.00	0.00	0.00
36	15	5000	2	0.49018	1.7677E+06	+/- 4.936E+01	0.00	0.00	0.00
37	16	5000	101	0.21682	1.1290E+05	+/- 6.678E+01	0.00	0.06	0.06
38	17	5000	205	2.74989	3.5513E+03	+/- 4.982E+02	14.03	0.01	14.03
39	18	5000	207	0.23145	1.1690E+05	+/- 3.380E+03	2.89	0.06	2.89
40	19	5010	1	0.44295	2.1951E+06	+/- 3.406E+02	0.00	0.02	0.02
41	20	5010	2	0.51619	1.6149E+06	+/- 4.440E+01	0.00	0.00	0.00
42	21	5010	101	0.21677	5.6724E+05	+/- 3.356E+02	0.00	0.06	0.06
43	22	5010	107	0.20473	5.5024E+05	+/- 1.713E+04	3.11	0.06	3.11
44	23	5010	205	2.74838	1.7839E+04	+/- 2.504E+03	14.03	0.01	14.03
45	24	5010	207	0.23123	5.8714E+05	+/- 1.699E+04	2.89	0.06	2.89
46	25	5010	800	0.83843	1.1077E+05	+/- 1.625E+04	14.67	0.02	14.67
47	26	5010	801	0.15606	4.3947E+05	+/- 7.904E+03	1.80	0.07	1.80
48	27	5011	1	0.48671	1.8145E+06	+/- 5.115E+01	0.00	0.00	0.00
49	28	5011	2	0.48338	1.8056E+06	+/- 5.102E+01	0.00	0.00	0.00
50	29	5011	205	12.643	1.6733E+00	+/- 2.827E-01	16.90	0.18	16.90
51	30	5011	207	11.2456	7.1564E+01	+/- 1.009E+01	14.10	0.10	14.10
52	31	9019	16	13.8384	2.3062E+00	+/- 7.058E-02	3.05	0.28	3.06
53	32	11023	1	0.69026	2.2179E+06	+/- 6.531E+01	0.00	0.00	0.00
54	33	11023	2	0.63732	2.0204E+06	+/- 6.072E+01	0.00	0.00	0.00
55	34	11023	16	15.381	1.0680E+00	+/- 1.485E-02	1.29	0.51	1.39
56	35	11023	102	0.24584	2.6933E+02	+/- 1.810E+01	6.72	0.02	6.72
57	36	12000	11024g	8.12579	3.5577E+02	+/- 2.956E+00	0.83	0.03	0.83
58	37	12024	103	8.12555	4.5033E+02	+/- 3.743E+00	0.83	0.03	0.83
59	38	13027	16	15.8898	9.1401E-01	+/- 3.303E-02	3.56	0.62	3.61
60	39	13027	103	5.73262	1.1538E+03	+/- 2.378E+01	2.06	0.01	2.06
61	40	13027	107	8.46488	2.1295E+02	+/- 1.576E+00	0.74	0.04	0.74
62	41	13027	11024g	8.46488	2.1295E+02	+/- 1.576E+00	0.74	0.04	0.74
63	42	13027	13026g	15.7548	8.3158E-01	+/- 3.179E-02	3.78	0.59	3.82
64	43	13027	13026m	17.4163	8.2429E-02	+/- 8.595E-03	10.36	1.14	10.43
65	44	14000	13028g	7.10611	1.4949E+03	+/- 3.764E+01	2.52	0.02	2.52
66	45	14028	103	7.10604	1.6209E+03	+/- 4.082E+01	2.52	0.02	2.52
67	46	14029	13028g	15.5939	1.1203E+00	+/- 4.959E-02	4.39	0.55	4.43

68	47	15031	103	3.58416	1.0554E+04	+/-	3.668E+02	3.48	0.01	3.48
69	48	16000	15032g	3.93518	1.9054E+04	+/-	4.807E+02	2.52	0.01	2.52
70	49	16032	103	3.93517	2.0059E+04	+/-	5.061E+02	2.52	0.01	2.52
71	50	21045	1	0.60109	2.2440E+06	+/-	6.875E+01	0.00	0.00	0.00
72	51	21045	2	0.48673	1.9645E+06	+/-	6.238E+01	0.00	0.00	0.00
73	52	21045	102	0.19489	6.6275E+03	+/-	4.701E+02	7.09	0.04	7.09
74	53	22000	21046g	0	2.7524E+02	+/-	8.718E+00	3.17	0.01	3.17
75	54	22000	21047g	0	4.0955E+02	+/-	1.128E+01	2.76	0.01	2.76
76	55	22000	21048g	0	6.6735E+01	+/-	3.710E+00	5.56	0.03	5.56
77	56	22000	22045g	15.8838	1.2388E-01	+/-	5.519E-03	4.41	0.62	4.45
78	57	22046	16	15.8838	1.5016E+00	+/-	6.689E-02	4.41	0.62	4.45
79	58	22046	103	5.92332	3.3338E+03	+/-	1.057E+02	3.17	0.01	3.17
80	59	22047	103	3.54934	5.4993E+03	+/-	1.517E+02	2.76	0.01	2.76
81	60	22048	103	8.10651	9.0500E+01	+/-	5.033E+00	5.56	0.03	5.56
82	61	23051	107	9.68232	7.3404E+00	+/-	2.354E-01	3.21	0.06	3.21
83	62	23051	21048g	9.68232	7.3404E+00	+/-	2.354E-01	3.21	0.06	3.21
84	63	24000	24051g	14.5502	1.0978E+01	+/-	2.958E-01	2.67	0.37	2.69
85	64	25055	1	0.60193	2.3617E+06	+/-	8.608E+01	0.00	0.00	0.00
86	65	25055	2	0.48206	1.8645E+06	+/-	7.705E+01	0.00	0.00	0.00
87	66	25055	16	12.7488	7.2597E+01	+/-	1.853E+00	2.55	0.19	2.55
88	67	25055	102	0.22065	3.3564E+03	+/-	5.952E+02	17.73	0.04	17.73
89	68	26000	24051g	0	1.4584E+01	+/-	5.663E-01	3.88	0.02	3.88
90	69	26000	25054g	0	1.3419E+03	+/-	4.238E+01	3.16	0.01	3.16
91	70	26000	25056g	0	2.9817E+02	+/-	8.016E+00	2.69	0.03	2.69
92	71	26000	26053g	16.3539	2.4547E-02	+/-	1.252E-03	5.05	0.73	5.10
93	72	26054	1	0.5701	2.5207E+06	+/-	8.862E+01	0.00	0.00	0.00
94	73	26054	2	0.52467	2.3588E+06	+/-	8.576E+01	0.00	0.00	0.00
95	74	26054	16	16.3539	4.1997E-01	+/-	2.142E-02	5.05	0.73	5.10
96	75	26054	103	4.27759	2.2958E+04	+/-	7.251E+02	3.16	0.01	3.16
97	76	26054	107	7.24011	2.4951E+02	+/-	9.689E+00	3.88	0.02	3.88
98	77	26056	103	7.38868	3.2495E+02	+/-	8.736E+00	2.69	0.03	2.69
99	78	26058	1	0.52916	3.5531E+06	+/-	1.065E+02	0.00	0.00	0.00
100	79	26058	2	0.37898	2.7462E+06	+/-	9.085E+01	0.00	0.00	0.00
101	80	26058	102	0.31861	2.1249E+03	+/-	2.311E+02	10.88	0.01	10.88
102	81	27059	1	0.55189	2.6147E+06	+/-	1.217E+02	0.00	0.00	0.00
103	82	27059	2	0.47764	2.3731E+06	+/-	1.127E+02	0.00	0.00	0.00
104	83	27059	16	12.9249	6.1756E+01	+/-	1.059E+00	1.70	0.20	1.71
105	84	27059	17	19.8415	3.5170E-04	+/-	1.559E-04	43.64	7.81	44.33
106	85	27059	102	0.22118	6.0223E+03	+/-	1.038E+02	1.72	0.14	1.72
107	86	27059	103	5.76027	4.1364E+02	+/-	1.485E+01	3.59	0.01	3.59
108	87	27059	107	8.13353	4.7038E+01	+/-	1.829E+00	3.89	0.03	3.89
109	88	27059	25056g	8.13353	4.7038E+01	+/-	1.829E+00	3.89	0.03	3.89
110	89	28000	27058g	0	2.1690E+04	+/-	3.770E+02	1.74	0.01	1.74
111	90	28000	27060g	0	1.6795E+02	+/-	3.245E+00	1.93	0.02	1.93
112	91	28000	28057g	14.7978	7.7132E-01	+/-	1.055E-02	1.31	0.41	1.37
113	92	28058	16	14.7978	1.1330E+00	+/-	1.550E-02	1.31	0.41	1.37
114	93	28058	103	4.00628	3.1861E+04	+/-	5.538E+02	1.74	0.01	1.74
115	94	28060	103	6.86152	6.4038E+02	+/-	1.237E+01	1.93	0.02	1.93
116	95	29000	27060g	7.06563	1.0843E+02	+/-	3.330E+00	3.07	0.02	3.07
117	96	29000	29062g	13.6627	1.9699E+01	+/-	2.936E-01	1.47	0.26	1.49
118	97	29000	29064g	0.37669	6.6903E+03	+/-	7.220E+02	10.79	0.01	10.79
119	98	29063	1	0.53902	2.5973E+06	+/-	7.159E+01	0.00	0.00	0.00
120	99	29063	2	0.46414	2.3236E+06	+/-	6.575E+01	0.00	0.00	0.00
121	100	29063	16	13.6627	2.8487E+01	+/-	4.245E-01	1.47	0.26	1.49
122	101	29063	102	0.37397	9.6296E+03	+/-	1.044E+03	10.84	0.01	10.84
123	102	29063	107	7.06563	1.5681E+02	+/-	4.816E+00	3.07	0.02	3.07
124	103	29065	16	12.5066	1.0202E+02	+/-	2.023E+00	1.98	0.17	1.98
125	104	30000	29064g	4.01771	5.6081E+03	+/-	9.733E+01	1.74	0.01	1.74
126	105	30000	29067g	4.39772	1.1792E+01	+/-	6.548E-01	5.55	0.01	5.55
127	106	30064	103	4.01771	1.1406E+04	+/-	1.979E+02	1.74	0.01	1.74
128	107	30067	103	4.38352	2.9041E+02	+/-	1.621E+01	5.58	0.01	5.58
129	108	30068	1	0.51212	2.9899E+06	+/-	8.839E+01	0.00	0.00	0.00
130	109	30068	2	0.45999	2.7652E+06	+/-	8.430E+01	0.00	0.00	0.00
131	110	30068	29067g	15.1152	3.2710E-01	+/-	5.017E-02	15.33	0.47	15.34
132	111	33075	16	12.7513	9.5110E+01	+/-	5.907E+00	6.21	0.19	6.21
133	112	39089	16	13.7459	4.9309E+01	+/-	6.685E-01	1.33	0.27	1.36
134	113	40000	40089g	14.2585	1.5349E+01	+/-	1.517E-01	0.93	0.33	0.99
135	114	40090	16	14.2585	2.9834E+01	+/-	2.948E-01	0.93	0.33	0.99
136	115	41093	1	0.54405	4.3155E+06	+/-	1.168E+02	0.00	0.00	0.00

137	116	41093	2	0.47527	3.8428E+06	+/-	1.076E+02	0.00	0.00	0.00
138	117	41093	102	0.33222	2.7330E+04	+/-	4.468E+02	1.63	0.00	1.63
139	118	41093	41093m	2.26629	5.0902E+04	+/-	1.370E+03	2.69	0.00	2.69
140	119	41093	41092m	11.1772	1.3604E+02	+/-	1.189E+00	0.87	0.11	0.87
141	120	41093	41094g	0.33222	6.8253E+03	+/-	1.116E+02	1.63	0.00	1.63
142	121	41093	41094m	0.33222	2.0505E+04	+/-	3.352E+02	1.63	0.00	1.63
143	122	42000	41092m	5.22447	2.8562E+02	+/-	1.093E+01	3.83	0.01	3.83
144	123	42092	41092m	5.22447	1.9657E+03	+/-	7.521E+01	3.83	0.01	3.83
145	124	45103	45103m	1.72868	2.8906E+05	+/-	1.165E+04	4.03	0.00	4.03
146	125	47109	1	0.59904	4.0965E+06	+/-	1.891E+02	0.00	0.00	0.00
147	126	47109	2	0.45994	3.0770E+06	+/-	8.665E+01	0.00	0.00	0.00
148	127	47109	47110n	0.32669	1.0291E+04	+/-	7.060E+02	6.86	0.06	6.86
149	128	48000	1	0.61239	4.1749E+06	+/-	3.735E+02	0.00	0.01	0.01
150	129	48000	2	0.52926	3.4412E+06	+/-	9.432E+01	0.00	0.00	0.00
151	130	48000	101	1.264-7	1.6473E+05	+/-	3.554E+02	0.00	0.22	0.22
152	131	49000	49114m	0.58629	6.2376E+03	+/-	1.594E+02	2.56	0.01	2.56
153	132	49113	1	0.68976	3.6619E+06	+/-	1.006E+02	0.00	0.00	0.00
154	133	49113	2	0.62523	3.2018E+06	+/-	8.767E+01	0.00	0.00	0.00
155	134	49113	102	0.53077	1.7556E+05	+/-	1.860E+01	0.00	0.01	0.01
156	135	49113	49113m	2.45558	5.1778E+04	+/-	6.260E+02	1.21	0.00	1.21
157	136	49113	49114g	0.4748	3.6219E+04	+/-	9.480E+02	2.62	0.02	2.62
158	137	49113	49114m	0.54584	1.3934E+05	+/-	3.702E+03	2.66	0.01	2.66
159	138	49115	1	0.68697	3.6732E+06	+/-	2.726E+02	0.00	0.01	0.01
160	139	49115	2	0.62048	3.2114E+06	+/-	8.840E+01	0.00	0.00	0.00
161	140	49115	102	0.39705	1.4484E+05	+/-	2.440E+02	0.00	0.17	0.17
162	141	49115	49115m	2.36377	6.3726E+04	+/-	1.081E+03	1.70	0.00	1.70
163	142	49115	49114m	11.6414	2.7137E+02	+/-	1.457E+01	5.37	0.12	5.37
164	143	49115	49116g	0.37047	2.9188E+04	+/-	5.505E+02	1.88	0.18	1.89
165	144	49115	49116m	0.4044	1.1565E+05	+/-	2.206E+03	1.90	0.17	1.91
166	145	53127	16	11.4231	3.5533E+02	+/-	1.136E+01	3.20	0.12	3.20
167	146	57139	1	0.80214	3.6200E+06	+/-	9.915E+01	0.00	0.00	0.00
168	147	57139	2	0.69203	3.0979E+06	+/-	8.433E+01	0.00	0.00	0.00
169	148	57139	102	0.43929	5.4605E+03	+/-	2.650E+02	4.85	0.03	4.85
170	149	59141	16	11.6867	3.2919E+02	+/-	3.896E+01	11.83	0.13	11.84
171	150	64000	1	0.48812	5.4213E+06	+/-	3.646E+03	0.00	0.07	0.07
172	151	64000	2	0.53586	3.1489E+06	+/-	8.662E+01	0.00	0.00	0.00
173	152	64000	101	3.516-8	1.0937E+06	+/-	3.631E+03	0.00	0.33	0.33
174	153	69169	16	10.2293	1.1541E+03	+/-	3.906E+01	3.38	0.07	3.38
175	154	69169	17	17.9407	1.2856E+00	+/-	8.727E-02	6.63	1.45	6.79
176	155	73181	1	0.71308	4.4774E+06	+/-	1.298E+02	0.00	0.00	0.00
177	156	73181	2	0.60406	3.2004E+06	+/-	8.693E+01	0.00	0.00	0.00
178	157	73181	102	0.29895	8.9171E+04	+/-	5.374E+03	6.03	0.05	6.03
179	158	74186	1	0.66807	4.5448E+06	+/-	4.494E+02	0.00	0.01	0.01
180	159	74186	2	0.49755	3.4541E+06	+/-	3.868E+02	0.00	0.01	0.01
181	160	74186	102	0.36549	3.1862E+04	+/-	6.506E+02	2.03	0.18	2.04
182	161	79197	1	0.64238	4.3271E+06	+/-	2.164E+02	0.00	0.01	0.01
183	162	79197	2	0.49413	3.3704E+06	+/-	9.473E+01	0.00	0.00	0.00
184	163	79197	16	10.3757	1.0069E+03	+/-	1.963E+01	1.95	0.08	1.95
185	164	79197	102	0.26844	8.8797E+04	+/-	4.285E+02	0.45	0.18	0.48
186	165	80199	80199m	2.72636	9.3775E+04	+/-	3.373E+03	3.60	0.01	3.60
187	166	82204	82204m	4.87257	5.1695E+03	+/-	2.403E+02	4.65	0.01	4.65
188	167	83209	16	9.70897	1.9235E+03	+/-	8.039E+01	4.18	0.06	4.18
189	168	83209	17	17.6636	1.7310E+00	+/-	1.075E-01	6.08	1.27	6.21
190	169	90232	1	0.59303	5.2344E+06	+/-	1.411E+02	0.00	0.00	0.00
191	170	90232	2	0.44156	3.8667E+06	+/-	1.073E+02	0.00	0.00	0.00
192	171	90232	18	2.69283	2.5505E+04	+/-	1.478E+03	5.79	0.01	5.79
193	172	90232	102	0.48092	8.2177E+04	+/-	1.109E+03	1.35	0.01	1.35
194	173	92235	1	0.59702	5.2174E+06	+/-	1.525E+02	0.00	0.00	0.00
195	174	92235	18	0.70059	7.8624E+05	+/-	9.278E+03	1.18	0.01	1.18
196	175	92238	1	0.60875	5.2232E+06	+/-	1.444E+02	0.00	0.00	0.00
197	176	92238	2	0.45781	3.7737E+06	+/-	1.050E+02	0.00	0.00	0.00
198	177	92238	16	8.08743	4.5476E+03	+/-	2.318E+02	5.10	0.03	5.10
199	178	92238	18	2.48942	1.0120E+05	+/-	1.238E+03	1.22	0.01	1.22
200	179	92238	102	0.46289	6.2681E+04	+/-	1.111E+03	1.77	0.04	1.77
201	180	93237	1	0.6024	5.0872E+06	+/-	1.406E+02	0.00	0.00	0.00
202	181	93237	2	0.45325	3.3184E+06	+/-	9.161E+01	0.00	0.00	0.00
203	182	93237	18	1.47624	5.8153E+05	+/-	1.046E+04	1.80	0.00	1.80
204	183	94239	1	0.59094	5.2893E+06	+/-	1.995E+02	0.00	0.00	0.00
205	184	94239	2	0.46414	3.2932E+06	+/-	9.056E+01	0.00	0.00	0.00

206	185	94239	18	0.83095	1.0729E+06	+/- 1.304E+04	1.22	0.01	1.22
207	186	95241	1	0.57411	5.3796E+06	+/- 1.755E+02	0.00	0.00	0.00
208	187	95241	2	0.45239	3.7357E+06	+/- 1.031E+02	0.00	0.00	0.00
209	188	95241	18	1.77742	5.3318E+05	+/- 1.396E+04	2.62	0.00	2.62
210									
211									